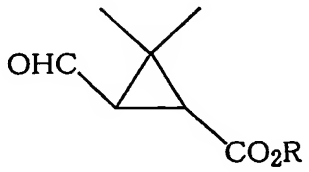
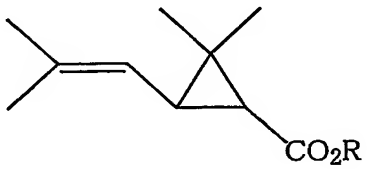
CLAIMS

1. A process for the production of a 3,3-dimethyl-2-formylcyclopropanecarboxylic acid derivative of formula (2):



(2)

wherein R is hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted aryl, or substituted or unsubstituted aralkyl, which process comprises reacting a 3,3-dimethyl-2-(2-methyl-1-propenyl)cyclopropanecarboxylic acid compound of formula (1):



(1)

wherein R is as defined above, with a periodic acid compound in the presence of a ruthenium compound.

2. The process for the production of a 3,3-dimethyl-2-formylcyclopropanecarboxylic acid derivative according to claim 1, wherein the periodic acid compound exhibits acidic property in its aqueous solution.

3. The process for the production of a 3,3-dimethyl-2-formylcyclopropanecarboxylic acid derivative according to claim 1, wherein the reaction is carried out in the presence of a mixture of water and a water-immiscible organic solvent.

4. The process for the production of a 3,3-dimethyl-2-formyl-

cyclopropanecarboxylic acid derivative according to claim 1, wherein the ruthenium compound is ruthenium metal, a ruthenium oxide, a ruthenium halide, a ruthenium complex, or a perruthenate.

5. The process for the production of a 3,3-dimethyl-2-formyl-cyclopropanecarboxylic acid derivative according to claim 1, wherein an iodic acid compound produced as a by-product in the reaction of a 3,3-dimethyl-2-(2-methyl-1-propenyl)cyclopropanecarboxylic acid compound of formula (1) and a periodic acid compound is converted into and recovered as a periodic acid compound, and the recovered periodic acid compound is reused in the above reaction.

6. The process for the production of a 3,3-dimethyl-2-formyl-cyclopropanecarboxylic acid derivative according to claim 1, wherein the amount of periodic acid compound used is 2 to 3 moles, per mol of the 3,3-dimethyl-2-(2-methyl-1-propenyl)cyclopropanecarboxylic acid compound of formula (1).